

A NEW SPECIES OF AMAUROSPIZA BLUE SEEDEATER FROM VENEZUELA

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Abstract.—At regular intervals throughout 2001, a unit from the Phelps Ornithological Collection assisted a biological survey along the Río Caroni in Venezuela, north and downstream of the Embalse de Guri. One of the expeditions was to Isla Carrizal at 07°54'N, 63°04'W, a large uninhabited island thickly covered with groves of spiny *Guadua lati olia* and *Ripidoclus* sp. bamboos, mixed with semideciduous forest and patches of savanna. On two occasions, three specimens of an unknown blue seedeater (*Amaurospiza*) were collected. Those were the first records for an *Amaurospiza* for northern South America, and subsequent investigation showed it to be a hitherto undescribed taxon. Received 20 May 2002, accepted 26 May 2003

RESUMEN.—A intervalos regulares durante 2001, un grupo de la Colección Ornitológica Phelps participó en un inventario biológico a lo largo del Río Caroní, en dirección norte y aguas abajo del Embalse de Guri, Venezuela. Una de las expediciones fue a la isla Carrizal (07°54'N, 63°04'W), una isla grande y deshabitada cubierta por rodales de bambúes espinosos *Guadua lati olia* y *Ripidoclus* sp. entremezclados con bosques semicaducifolios y parches de sabana. En dos ocasiones se colectaron tres especímenes de un semillero desconocido de color azul (*Amaurospiza*). Estos especímenes representaron los primeros registros de un *Amaurospiza* para el norte de Sur América, e investigaciones posteriores mostraron que correspondían a un taxón no descrito hasta ahora.

AMAUROSPIZA IS A small and remarkably homogenous monophyletic genus of five or six species of uncertain affinities (Orr and Ray 1945). Morphologically, they are conservative in shape and vary little in size. They are mid-sized finches in which the adult males are all dull dark gray washed to some extent with blue, whereas females are varying shades of brown. *Amaurospiza* is traditionally placed within Emberizidae, following *Oryzoborus* in linear sequences, but has been considered “very possibly a cardinal-grosbeak close to, or conspecific with *Passerina*” (Paynter 1970). Their distribution is fragmented and scattered from México, parts of Central America, Colombia, Ecuador, Perú, Brazil, Uruguay and Argentina (Paynter 1970, Narosky and Yzurrieta 1987, Ridgely and Gwynne 1989, Ridgely and Tudor 1989, Howell and Webb 1995, Salinas, et al. 1998, and Ridgely and Greenfield 2001), and now in Venezuela. Cabanis first described the genus in 1861. *Amaurospiza* is still poorly known, little is understood of its distribution and habitat, and

even less of its habits. Various described as local (Howell and Webb 1995), rare (Rowley 1962), rare and local (Ridgely and Greenfield 2001), rare and very local (Wetmore et al. 1984), irregularly distributed (Paynter 1970), and very restricted (Slud 1964), *Amaurospiza* generally keep to low cover in undergrowth or bamboo thickets and are not easy to see by chance. Spiny *Guadua* bamboo thickets are also formidable obstacles to watching birds. It is not an easy bird to identify when seen. Indeed it is likely that fleeting observations of an *Amaurospiza* in a situation where it was not expected could result in the belief one had probably seen a Blue-black Grassquit (*Volatinia jacarina*), Indigo Bunting (*Passerina cyanea*), grosbeak (*Cyanocompsa* spp.), or a seed-finch (*Oryzoborus* spp.).

Blue Seedeaters are all associated to a greater or lesser extent with bamboo (Ridgely and Gwynne 1989, Stiles and Skutch 1989, Sick 1993, Howell and Webb 1995, M. Lentino pers. obs., J. Lyons pers. comm.). It seems likely that they are much more closely associated with bamboo than the literature might indicate. Birds observed and identified by birdwatchers in woodland are more likely to be individuals that are transiting, possibly foraging, en route from one bamboo area to another. The pattern of frag-

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mentary distribution is typical of nomadic bamboo-dependent seedeaters, for example, Slate-colored Seedeater (*Sporophila schistacea*; Kratter 1997) and Sooty Grassquit (*Tiaris fuliginosa*; Sick 1993). It seems possible that all *Amaurospiza* are nomadic to some extent.

There are no records for *Amaurospiza* in Venezuela, nor has there been expectation of any. The nearest species are removed by both distance and the Andes in the case of *A. aequatorialis* in southernmost Colombia and Ecuador, and distance and the Amazon basin in the case of *A. moesta* in southern Brazil and eastern Paraguay (see Figs. 1 and 2). It was thus a considerable surprise when Lentino collected an adult male in Bolívar State, Venezuela. That bird was deposited in the Phelps Ornithological Collection, Caracas, where confirmed as an *Amaurospiza*. On the next expedition to the same area a few weeks later, another male and an adult female were collected. Those specimens were subsequently taken to the American Museum of Natural History (AMNH), New York, where compared with specimens of *Amaurospiza* from the collections of the Louisiana State University Museum of Natural Science, the National Museum of Natural History, Washington, D.C., and the AMNH, and were confirmed as being of an undescribed taxon. We propose naming the new taxon

***Amaurospiza carrizalensis* sp. nov.**

Carrizal Blue-black Seedeater
Semillero de Carrizales

Holotype.—Colección Ornitológica Phelps, Caracas, Venezuela, COP no. 80449, male, Isla Carrizal, Estado Bolívar, Venezuela, elevation 95 m, 07°54'N, 63°04'W, collected 25 July 2001

by M. Lentino and prepared by I. Carreño, original field number IC 569.

Diagnosis.—An emberizid, assignable to the genus *Amaurospiza* by the combination of bill shape, including general proportions plus the unique flared basal tomia of the maxilla, (Fig. 2), large size, and dark fuscous-gray coloring, well washed with blue, and the white underwing, separable from other members of the genus by the density of coloration and black flammulations on the breast, overall size, wing formula, volume and shape of the bill, wing formula, and general measurements (Table 1).

Description of holotype.—Capitalized color names here and throughout this paper refer to Ridgway's color standards and nomenclature (1912). Entire head, throat, and upper breast black, well washed with Indigo Blue (Fig 3). Mantle and wing-coverts Sooty, washed with Indigo Blue, rump and uppertail-coverts Deep Delft Blue with only the bases of the feathers brownish-gray. Lesser wing-coverts are particularly bright and with a slight iridescence. There is a gentle gradation of dark to light color from the crown to tail-coverts. Primaries, secondaries, and tertials are dark Fuscous; primaries have fine (0.4 mm) pale blue edges, almost whitish, the secondaries are edged a little more broadly (0.75 mm) with dull pale Indigo, the tertials are somewhat abraded but appear to have been edged with Indigo. The wing formula is 7=6, 8=5, 9=4 (see Fig. 4 for comparison with other members of the genus and further comments below). Rectrices are Fuscous Black, edged with dull Indigo, more broad basally, broadest on the innermost and central pairs of feathers. Throat and breast are Indigo with black flammulations. Flanks, belly, and undertail-coverts are dull Sooty, washed lightly with Indigo. Underwing-

TABLE 1. Summary statistics ($\bar{x} \pm SD, n$) for measurements of species of *Amaurospiza*. All measurements are in millimeters

Variable	Taxon					
	<i>carrizali</i>	<i>moesta</i>	<i>aequatorialis</i>	<i>concolor</i>	<i>grandior</i>	<i>relictus</i>
Culmen exposed	13.35 ± 0.3, 3	10.2 ± 0.6, 27***	9.8 ± 0.7, 3***	9.7 ± 0.5, 11***	10.5 ± 0.1, 3***	10.6 ± 0.4, 4***
Bill height through nares to base	9.1 ± 0.4, 3	8.4 ± 0.4, 27**	7.1 ± 1.6, 3*	7.8 ± 0.3, 11***	8.3 ± 0.5, 3*	9 ± 0.4, 3
Bill width at base	10.2 ± 0.3, 3	9.7 ± 0.5, 27	8.4 ± 0.4, 3***	8.4 ± 0.4, 11***	8.3 ± 1.0, 2*	9.6 ± 0.3, 3*
Wing chord	63.7 ± 1.1, 3	61.7 ± 2.5, 27	58.8 ± 1.4, 3***	60.7 ± 1.7, 10**	60.8 ± 3.8, 3	65.7 ± 2.3, 3
Tarsus length	17 ± 0.5, 3	17.5 ± 0.8, 27	17.3 ± 0.6, 3	16.4 ± 0.8, 11	16.8 ± 0.9, 3	17 ± 0.7, 3
Tail length	50.2 ± 1.7, 3	51 ± 2.7, 27	46.7 ± 1.5, 3*	47.1 ± 4.6, 11	49.7 ± 3.5, 3	55.3 ± 3.2, 3*

Asterisks denote significance levels from two-sample *t*-tests comparing *A. carrizalis* with the taxa indicated. **P* ≤ 0.05; ***P* ≤ 0.01; ****P* ≤ 0.001.



FIG. 1. Approximate distributions of *Amaurospiza* (after Howell and Webb 1985, Ridgely and Tudor 1989, Hilty and Brown 1989, and Ridgely and Greenfield 2001) with inset showing location of Isla Carrizal.

coverts and axillars white. Plumage in good condition, no molt in evidence, slight wear at tips of tertials and rectrices.

Iris, Prout's Brown. Bill black, tending to a brownish translucency along edges of the tomium. Bill has an interesting shape, similar to other species of *Amaurospiza*, but peculiarities are more pronounced in this taxon. The maxilla is shallow, almost like that of Slate-colored Seedeater but not severely angled. Distal half of the bill is like a pair of long-nosed or needle-nose pliers (Bowman 1979) whereas basal tomia

of the maxilla forms a flange. Mandibular ramus is noticeably concave, bending up and out to meet the flange at the top of the rictus. Legs, feet, toes, and nails black with soles grayish.

Measurements of holotype.—Total length 120 mm. Wing chord (not flattened) 65.0 mm, tail 51.0 mm, exposed culmen 11.93 mm, nare to tip of bill 8.25 mm, height of bill measured through nare 8.83 mm, width at base of bill 10.49 mm. Tarsus 16.6 mm. Weight 14.0 g. Testes 8 × 5 mm.

Description of female.—Forehead to lower back,

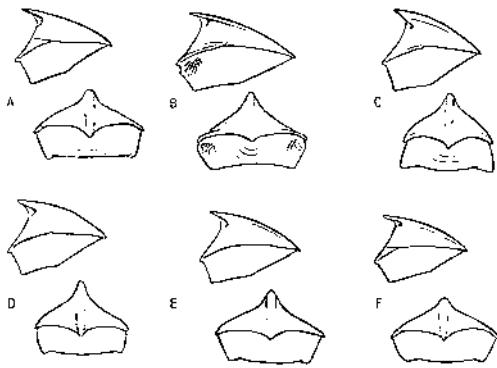


FIG. 2. Comparisons between the bill profiles of *Amaurospiza*. Upper, (A) *moesta* (Brazil), (B) *carrizali* (Venezuela), (C) *relictus* (Mexico); (D) *aequatorialis* (Ecuador), (E) *grandior* (Nicaragua), (F) *concolor* (México to Panamá).

wing-coverts, tertials, and rectrices Brussels Brown, washed slightly with Dresden Brown (Fig 5). The uppertail-coverts graduate into Antique Brown. The wings and tail are Sepia with Brussels Brown edges. Leading edges of the primaries are slightly paler than those of the secondaries. From chin to undertail-coverts is Ochraceous-Buff washed at the sides of the throat, the entire breast flank and undertail-coverts with a tone similar to both rich deep Clay Color and Antique Brown. The underwing-coverts and axillars are pale Chamois or possibly pale Cream Buff.

Iris, Prout's Brown. Maxilla blackish, mandible Olive-gray. Legs, feet, toes, and claws dark gray.

Measurements of female.—Total length 132 mm. Wing chord 63.0 mm, tail 47.0 mm. Culmen



FIG. 3. Adult male *Amaurospiza carrizali*, taken on Isla Carrizal showing bright blue of shoulder, and character of bill. (Photo courtesy O. Linares.)

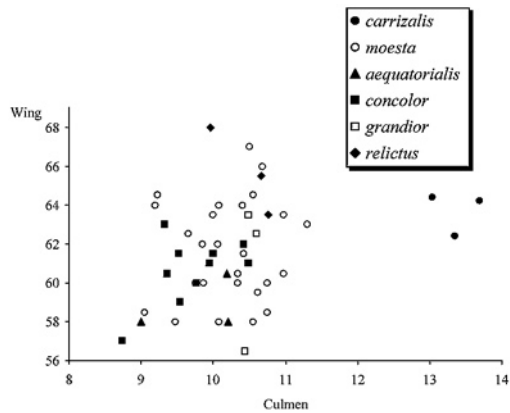


FIG. 4. Comparative wing-bill ratios for *Amaurospiza*.

12.42 mm, nares to tip 8.42 mm, height of bill 8.26 mm, width 9.22 mm. Tarsus 17.66 mm. Weight 14.0 g. Ovary 8 × 4 mm, diameter of follicle 1 mm.

Specimens examined: *Amaurospiza carrizalensis*.—Two specimens other than the holotype were collected by Lentino and Carreño. Those are COP 80451, female (described above), Isla Carrizal, Río Caroni, Edo. Bolívar, 14 August 2001, and COP 80450, male, Isla Carrizal, Río Caroni, Edo. Bolívar, 15 August 2001. Both specimens were deposited at the COP (Table 2). The stomach contents of two specimens included insects (possibly Curculionidae) and unidentified vegetal mass.

Etymology.—The locality where the birds were found is Carrizal Island in the Río Caroni opposite the confluence with the Río Claro (see Fig 1). Carrizo is a Spanish word for reed-grass, but in the locality it is the word used for bamboo. A carrizal is a forest of bamboo, thus a translation of the location's name would be "Bamboo Island" or "Bamboo Forest Island." The birds were found among the extensive spiny *Guadua* bamboo forest on the island, thus it seems doubly appropriate to give the new species this name, which works well in English and Spanish, whereas the scientific name is an adaptation of the word to Latin.

REMARKS

Variation within the type series.—In addition to holotype, there are two other study skins (Table 2). The paratype male has slightly stronger black flammulations on the breast, other



FIG. 5. Adult female *A. carrizali*, taken on Isla Carrizal showing shape and character of tomia. (Photo by M. Lentino.)

than that the two males are consistent. The female differs from the male in a way consistent with the other species of *Amaurospiza*.

Variation within the species of Amaurospiza.—The species of *Amaurospiza* have been separated essentially on the basis of small plumage differences and the shape and size of bill. The description of *moesta*, for example, was based on the white axillars and a bill shape different to that of *concolor* (Hartlaub 1853, Hellmayr 1938). The differences are even smaller between *grandior* and *concolor*, although we have shown the data for *grandior* as separate from *concolor*.

The validity of *relictus* as a species has been questioned (Hellmayr 1938, Paynter 1970); but even so, *relictus* and *concolor* have been maintained as well-differentiated groups (Sibley and Monroe 1990). There exist clear differences in size and color between *relictus* and *concolor* (Orr and Ray 1945), furthermore, Howell and Webb (1995) have recently suggested that there

are song differences between the two forms. Considering bill shape and morphological characters mentioned above, we suspect that *relictus* may well turn out to be a distinct species from *concolor*.

Within the genus *Amaurospiza*, the bill of Carrizal Blue-black Seedeater is the largest and the one in which the typical characters are most pronounced. (Table 1 and Fig. 2). The bill of *carrizalensis* is the largest in the genus and suggests larger or tougher food items (Fig. 2). The wing: bill ratio also separates it well from other members of the genus (Fig. 4). The different wing formula results in a more elongated, sharply pointed wing, suggesting a greater capacity for dispersion than other members of the genus (Fig. 6).

All members in the genus have rounded wings, and wing formulae within the genus are similar. There appear to be two taxa that are different from the rest, which are *carrizalensis* with 7=6, 8=5, 9=4, and *aequatorialis* with (7,6,5), 8,9,4. The specimens of *aequatorialis* are few, and we were unable to examine them all ourselves, but were sent details from the museums where the specimens reside, including the type at the Natural History Museum, Tring. There is either evidence of molt or some damage to the primaries in those specimens, and it was only possible to approximate the wing formula. Thus a larger series could show that the formula of the outermost three primaries is either 7,6,5 or 7=6,5 or 6, 7=5. Each of those results in a distinct formula. For that reason, combined with plumage and morphological differences and a different distribution, we suspect that *aequatorialis* may well turn out to be a distinct species from *concolor*, with which it is currently included (Paynter 1970). We have shown the data for *grandior* as separate from *concolor* since it is geographically isolated from that of *concolor* in Nicaragua. The distribution of *concolor* from Chiapas in México,

TABLE 2. Information from specimen labels of the holotype and paratypes of *Amaurospiza carrizali*

Museum no.	Mass (g)	Skull ^a	Gonads ^b	Fat	Plumage
Males					
COP 80449 ^c	14	100	8 × 5	–	Light worn
COP 80450	12	100	10 × 6	–	–
Female					
COP 80451	14	100	8 × 4	–	Light worn

^aSkull ossification (%).

^bDimensions (mm) of left testis for males, ovary for females.

^cHolotype.

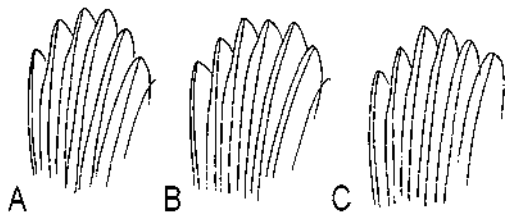


FIG. 6. Comparative wing formulae of *Amaurospiza*. (A) *carrizalis* 7=6,5=8,9=4, (B) *grandior*, *concolor*, *relictus* and *moesta* 7=6=5,8=4,9, and (C) *aequatorialis* 7,6,5,9,8,4/(7=6=5)8,9,4/6,7=5,8,9,4 (see text for explanation of variances).

to the Canal Zone in Panamá is so spotty, missing entire countries, as to merit more detailed analysis than we have been able to make within the scope of this description.

Habitat.—To date, the species has only been found in stands of spiny *Guadua lati olia* and *Ripidoctlaus* sp. bamboo forest, within tropical deciduous forests of the lower Río Caroni.

Distribution and status.—The species is presently known only from Carrizal Island in the River Caroni. The area is currently undergoing extensive forest clearance for dam development, and Isla Carrizal has already been cleared. There are extensive groves of *Guadua* bamboo bordering the Caroni and the Guri Dam, some of which will disappear in the actual dam expansion program. Further field work is planned to nearby localities that have bamboo forests in the hope of establishing that the new species exists in other locations. Meanwhile we hope that anybody visiting the area will be particularly alert for this species, and promptly report any sightings.

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specimens in their collections. The assistance of R. Banks in getting the Latin naming of the new species right was valuable. In addition, thanks to O. Linares, coordinator of scientific research to the Caruachi Dam Project and EDELCA, for supporting this investigation. Thanks to I. Carreño and A. Bermúdez for their assistance in the fieldwork. Thanks to J. V. Remsen, J. P. O'Neill, and C. Rodner for critical readings of the draft of this paper and their subsequent constructive comments.

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APPENDIX. Specimens examined during the course of the preparation of this description.

Amaurospiza c. concolor

Canal Zone, Panamá

USNM 483119 m
 AMNH 792653 m
 AMNH 515474 m
 AMNH 515 475 m
 AMNH 801537 m
 AMNH 801 536 m
 AMNH 823289 m
 AMNH 801539 f
 AMNH 515476 f

Costa Rica

AMNH 392909 f
 AMNH 515479 f

Amaurospiza c. grandior

Matagalpa, Nicaragua

AMNH 102650 m
 AMNH 102649 m
 AMNH 103812 f

Amaurospiza moesta

Porto Almeida, Brasil,
 Misiones, Argentina

LSU 59707 m
 LSU 59708 m
 LSU 59709 m
 LSU 59711 m
 LSU 59722 m

LSU 59714 m
 LSU 59719 m
 LSU 59715 m
 LSU 59703 f
 LSU 59716 f
 LSU 59718 f
 LSU 59704 f
 AMNH 774851 m
 AMNH 774848 m
 AMNH 774821 m
 AMNH 774822 m
 AMNH 774820 m
 AMNH 774844 m
 AMNH 774841
 AMNH774846 m
 AMNH 774816 m
 AMNH 774850 m
 AMNH 774824 f
 AMNH 798524 f
 AMNH 774840 f
 AMNH 774815 f

Amaurospiza relictus

Morelos, Mexico

AMNH 778553 m
 AMNH 778551 m
 AMNH 778552 m
 AMNH 778554 f

Amaurospiza aequatorialis

Ecuador

AMNH 173546 m





